REMARKS

Claims 19-29 and 32-43 are pending in the present application. Claim 19 is sought to be amended. New claims 38-43 are sought to be entered. Claims 33-37 are withdrawn from consideration.

Claim 19 has been amended wherein the Markush group defining R^1 includes as a member "C_1-C_2-alkyl" rather than "C_1-C_4-alkyl." Specific support for this amendment is found throughout the original specification, specifically at page 7, line 10.

New claims 38-43 find support in the originally filed specification at page 7, lines 10-26.

None of the amendments are believed to introduce new matter, and their entry is respectfully requested.

Reexamination of the application and reconsideration of the rejections and objections are respectfully requested in view of the above amendments and the following remarks, which follow the order set forth in the Office Action.

I. Claim Objections

The Office Action states: "Claims 119 [sic], 23-27, 31 and 32 objected [sic] to for containing non-elected subject matter." OA, p. 3. Applicants respectfully submit that as pointed out in the Reply to the Restriction Requirement filed December 14, 2007, each of these claims reads upon the elected species. Applicants believe that the rejections show that the Examiner considers the elected species patentable, and thus has searched and examined the genus (the rejection is based on a homolog of a species other than the elected one.) Therefore, Applicants respectfully submit that the objection is improper at this point. Applicants note that non-elected claims 33-37 should be considered withdrawn from consideration until such time that they can be rejoined.

II. Claim Rejections Under 35 U.S.C. § 112, First and Second Paragraphs

The Office Action alleges that claim 19 does not comply with § 112, first paragraph because the proviso which excludes 5-bromo-2-cyano-3,6-diisopropylbenzene sulfonamide does not appear to find support in the originally filed disclosure of PCT/EP04/11004. Without acquiescing to the reasoning set forth in the Office Action, Applicants have amended R^1 in claim 19 to delete "5-bromo-2-cyano-3,6-diisopropylbenzene sulfonamide" and recite,

"C_1-C_2-alkyl", which is literally supported by the original specification at least at page 7, line 10.

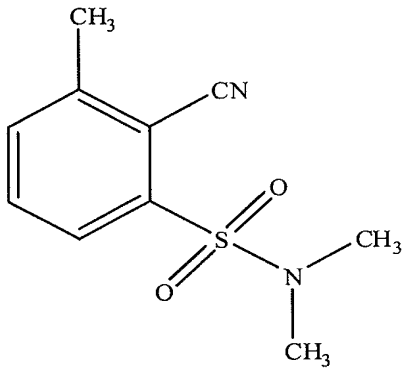
The Office Action alleges that claim 19 does not comply with § 112, second paragraph because the recited term "general" is indefinite. Applicants respectfully disagree; however, to further prosecution, the term has been deleted as suggested in the Office Action.

In view of the above amendments, Applicants submit that all of the rejections under 35 U.S.C. § 112 have been overcome. Reconsideration and withdrawal of the rejections is respectfully requested.

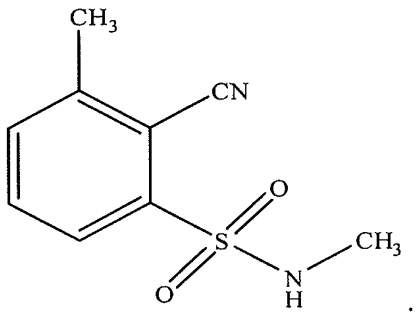
III. Claim Rejections Under 35 U.S.C. § 103

Claims 19, 26, 27, 30 and 32 have been rejected under 35 U.S.C. § 103(a) for allegedly being obvious over van Hes et al ("the '157 patent"). OA p. 5. Applicants respectfully traverse this rejection.

At page 5, the Office Action states that the '157 patent, "teaches the following compound as an aphicidal agent (21) 2-cyano-3-methyl-N,N-dimethylbenzenesulphonamide." The compound has the following structure:



The Office Action states that this compound is a homolog to a species of the present genus. It is alleged that it would therefore have been obvious to remove one of the nitrogen's methyl groups and replace it with a hydrogen to arrive at a presently claimed species of formula I, which has the following structure:



The rejection based on homology assumes that the differences in the present compounds are only conservative or small changes. At the onset, Applicants respectfully point out that because of a nitrogen's chemistry, alkylating a sulfonamide nitrogen is not the same as simply adding another carbon to an existing carbon chain on an already secondary amine nitrogen.

Homology should not be automatically equated with *prima facie* obviousness because the claimed invention and the prior art must each be viewed "as a whole." MPEP § 2144.09(II) (*citing In re Langer, 465 F.2d 218*). In a post-*KSR* decision, the Federal Circuit restated the law governing obviousness in the context of structurally similar chemical compounds. *Takeda Chem. Industries, Ltd. v. Alpharma Pty., Ltd.*, 492 F.3d 1350 (Fed. Cir. 20007). In sum, a known compound may suggest its homolog, analog or isomer; however,

> to find a prima facie case of unpatentability in such instances, a showing that the prior art would have suggested making the specific molecular modifications necessary to achieve the claimed invention was also required.

Id. at 1356 (Quotations omitted). In *Takeda*, the obviousness issue rested on a preliminary finding of whether one ordinary skill in the art would have selected "compound b" as a lead compound for further modification. Id. at 1357. The patent specifically identified 54 compounds, including "compound b." The prosecution history disclosed test results for nine specific compounds, including compound b. The court then found nothing in the patent or the file history to suggest that those nine compounds out of the genus were the best performing and hence targets for modification. Id. The Federal Circuit then further opined that other art (the Sodha references) revealed reasons to not select compound b, even though the patent characterized compound b as "especially important." Id. at 1358. Essentially, the

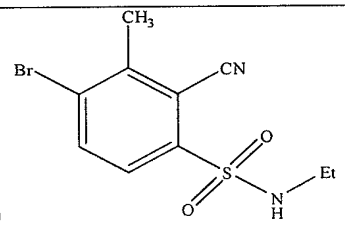
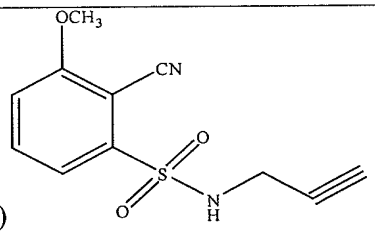
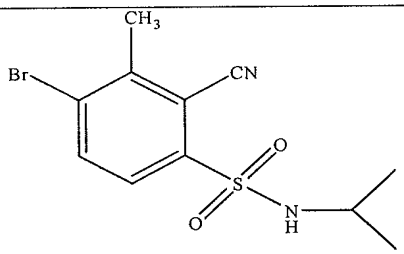
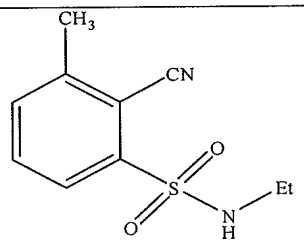
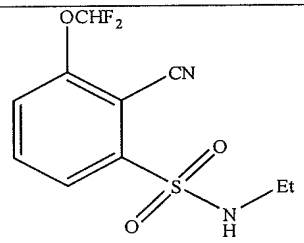
patent's teaching of the importance of compound b was negated by another reference's teaching away from it.

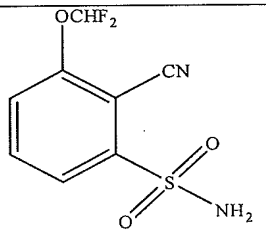
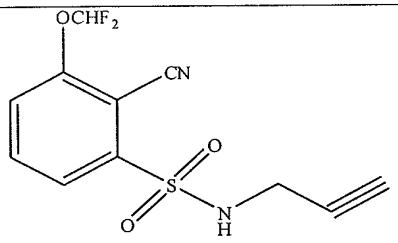
In the present case, no art has been cited that teaches away from the alleged homolog (compound 21), but the data in the '157 patent shows that compound 21 is mediocre at best among the 37 compounds listed on columns 3 and 4 of the '157 patent. The first 13 compounds are described as "very suitable aphicidal compounds", and the remaining 14-37, where compound 21 shown above is listed, are described as "[e]xamples of other new sulphonyl compounds having aphicidal activity." Of the "very suitable" compounds, all of the sulphonamide compounds require a halogen adjacent to the cyano group. Looking at the patent as a whole, in Table A in column 15 of the '157 patent, a composition containing compound 21 is shown to have the same activity (+ = 90-100% mortality) as 34 of the 37 compositions tested at 300 mg/L. At 100 mg/L, the composition has the same activity (+ = 50-90% mortality) as 25 of the 30 compositions tested. At 30 mg/L its activity is *lower* than 11 compositions having (+) activity, the same as 15 compositions having (±) activity, and greater than only 4 having activity of (-) (= <50% mortality). Finally, at 10 mg/L the composition containing compound 21 has (-) activity, which is lower than 11 compositions out of a total of 25 tested. In Table B at column 16, compound 21 is 100% effective at 100 mg/L, but is only 65% effective at 30 mg/L, which ranks it 8th among 11 compounds tested. At 10 mg/L, compound 21 is one of two compounds having the lowest activity (10%) reported. Because the Office Action proffers no reason beyond homology to select compound 21, Applicants respectfully submit that in view of the whole, this is improper hindsight reasoning.

Moreover, Applicants submit that the presently claimed species of Formula I shown above has superior activity compared to the compounds specifically listed in the '157 patent. Submitted herewith as Exhibit A is a Declaration Under 35 U.S.C. § 1.132 showing that the presently claimed species (Example 29) is superior to the alleged homolog (identified as "Comparative A"). In Tables 1-3, data show that the activity of Example 29 at a low concentration of 10 ppm is still greater than, or in the case of Cotton Aphids equal to, that of Comparative A at 10x concentrations (100 ppm.)

Applicants point out that the Office Action refers to the aphicidal activity disclosed in the '157 patent. It is worth mentioning that the original specification of the present application addresses the activity limited to aphids of compounds of the '157 patent, by way of discussing the corresponding EP0033984 application at page 1, lines 15-18. The

Examples in the originally filed specification of the present application and the attached Declaration Under 35 U.S.C. § 1.132 (Exhibit A) show that the present compounds not only possess superior aphicidal activity, but also have been shown to possess activity against other pests. The table below lists a brief summary of the activities besides aphicidal activity of some of the species of the present genus.

Compound (No.) Structure	Pesticidal Activity	Citation
 (5)	Silverleaf whitefly	Specification p. 60, line 22
 (42)	Silverleaf whitefly	Specification p. 60, line 22
 (8)	2-spotted Spider mite	Specification p. 60, line 36
 (30)	2-spotted Spider mite	Specification p. 60, line 36
 (66)	Florida Carpenter Ant Argentine Ants	Specification p. 61, line 5 Specification p. 61, line 18

 (78)	Florida Carpenter Ant Argentine Ants	Specification p. 61, line 5 Specification p. 61, line 18
 (79)	Florida Carpenter Ant Argentine Ants	Specification p. 61, line 5 Specification p. 61, line 18

Applicants believe that the evidence submitted herein shows the superior properties and wide-ranging efficacy of several species of the presently claimed genus in view of the '157 patent teachings. For the foregoing reasons, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 19, 26, 27, 30 and 32 under 35 U.S.C. § 103(a).

Finally, Applicants note that claims 24, 25, 26 and 31 were not rejected in view of the '157 patent. If the Examiner considers each of these claims free of the cited art, Applicants request that a statement be made to that effect in the next communication.

IV. Obviousness-type Double Patenting

The Office Action alleges that claims 19, 23-27, 31 and 32 are unpatentable over claim 35 of co-pending Application No. 11/909,447. Applicants respectfully request that this rejection be removed in this application, which is the first-filed application. When the present claims are found allowable, the Examiner should assess whether the rejection could then be applied to the later-filed 11/909,447 application.

Similarly, the Office Action alleges that claims 19, 23-27, 31 and 32 are unpatentable over claim 35 of co-pending Application No. 11/791,398. Applicants respectfully request that this rejection be removed in this application, which is the first-filed application. When the present claims are found allowable, the Examiner should assess whether the rejection could then be applied to the later-filed 11/791,398 application.

CONCLUSION

For the foregoing reasons, all of the pending claims are considered allowable. A Notice to this effect is respectfully requested. If any questions remain, the Examiner is invited to contact the undersigned at the number given below.

Respectfully submitted,

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